

[Method for Magnetic Resonance Fluid Characterization]

Abstract of Disclosure

A method for determining properties of a mixture of fluids includes: (a) acquiring a plurality of nuclear magnetic resonance measurements from the mixture of fluids, each of the plurality of nuclear magnetic resonance measurements having a different value in an acquisition parameter for which at least one relaxation selected from the group consisting of longitudinal relaxation and transverse relaxation affects magnitudes of the nuclear magnetic resonance measurements; (b) generating a model of the mixture of fluids; (c) calculating a synthesized nuclear magnetic data set based on the model; (d) comparing the synthesized nuclear magnetic data set with the nuclear magnetic resonance measurements; and (e) adjusting the model and repeating (c) and (d), if difference between the synthesized nuclear magnetic data set and the nuclear magnetic measurements is greater than a minimum.